

ABSTRACT OF THE DISCLOSURE

An efficient fluid cleaning system. The efficient system includes a first mechanism for changing the pressure of a fluid from a first pressure to a second pressure, the second pressure being lower than the first pressure. A second mechanism distributes the fluid within an evaporation chamber at the second pressure. The evaporation chamber includes an evaporation surface having capillary channels for dispersing oil about the evaporation surface via capillary action to facilitate evaporation of contaminants from within the fluid. In a specific embodiment, the capillary channels are spiral capillary channels, and the system further includes a vent through a ceiling of the evaporation chamber. The vent includes a valve biased in an open position and lacking a cracking pressure. The valve prevents the escape of the fluid from the system but allows gases to escape from the system unencumbered. The evaporation surface has perforations through which fluid passes onto the evaporation surface. The perforations are selectively distributed about the evaporation surface to facilitate oil dispersion about the surface to maximize exposed surface area.